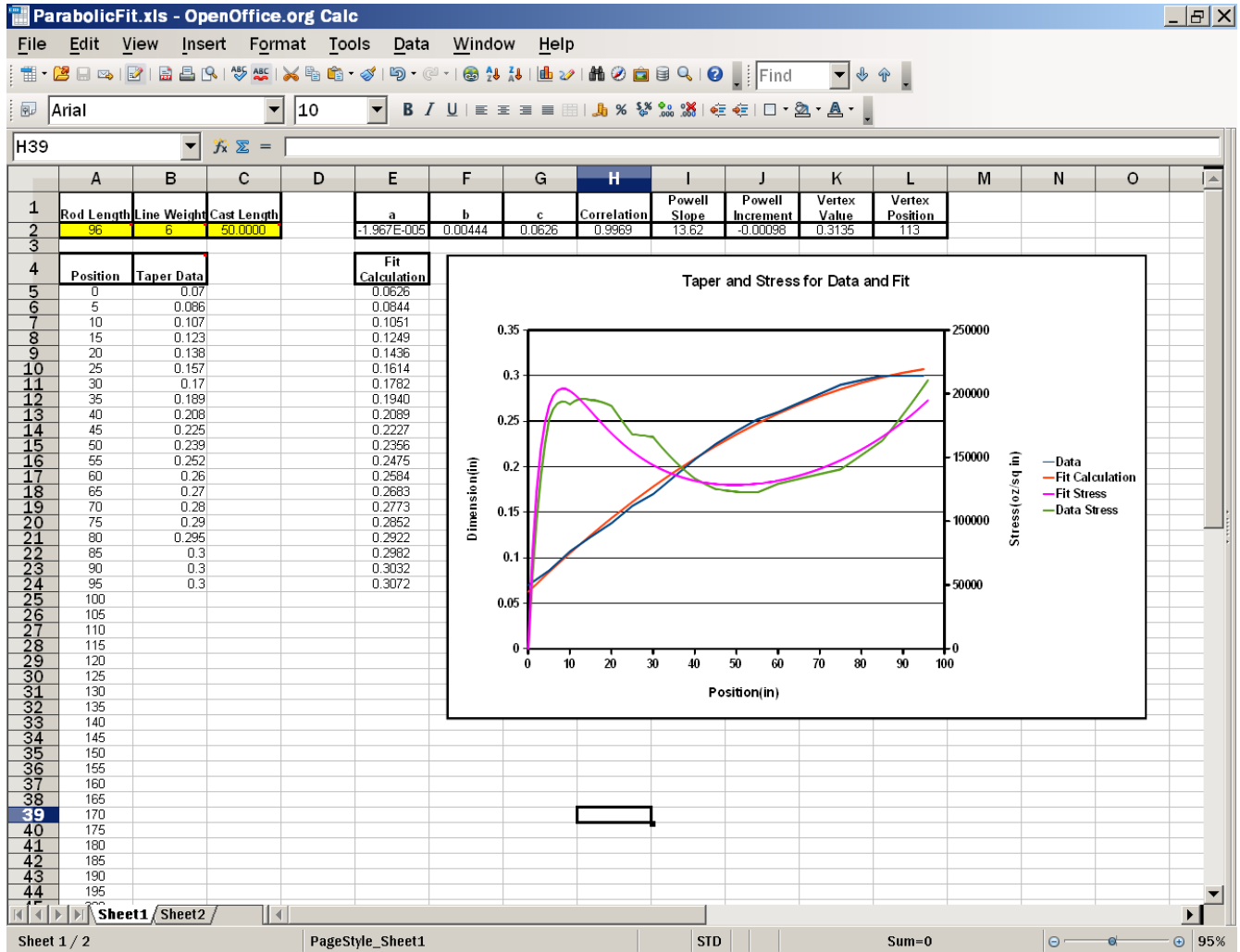


# The Parabolic Fit and Cubic Spline Spreadsheet Instructions

by Mike McGuire

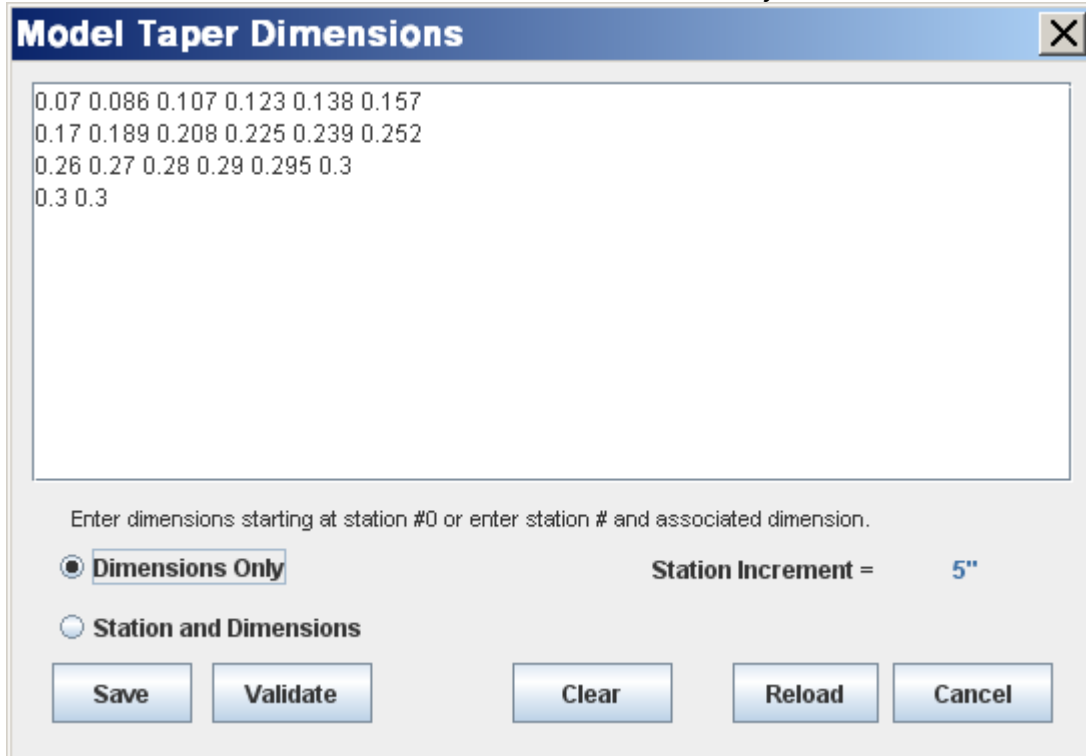
The spreadsheets are in Microsoft Excel Format (.xls). However they were produced with Calc, the Open Office version, and should be compatible. Here is the first page of ParabolicFit.xls.



This is the user interface and the results. The user inputs rod length, line weight, cast length, and the taper data. The correlation output is a measure of “goodness” of the fit—1.0 is perfect, 0.99 is by that measure very good. The vertex value and position is where the parabola turns over and starts down. It is usually outside the plot region.

The taper data entered line by line or can be conveniently copied and pasted from the [RodDNA](#) database. In the free version, go to the Models module, select a rod, click the Values

tab, click the Dimension Editor, and click the Dimensions Only button. It will look like this

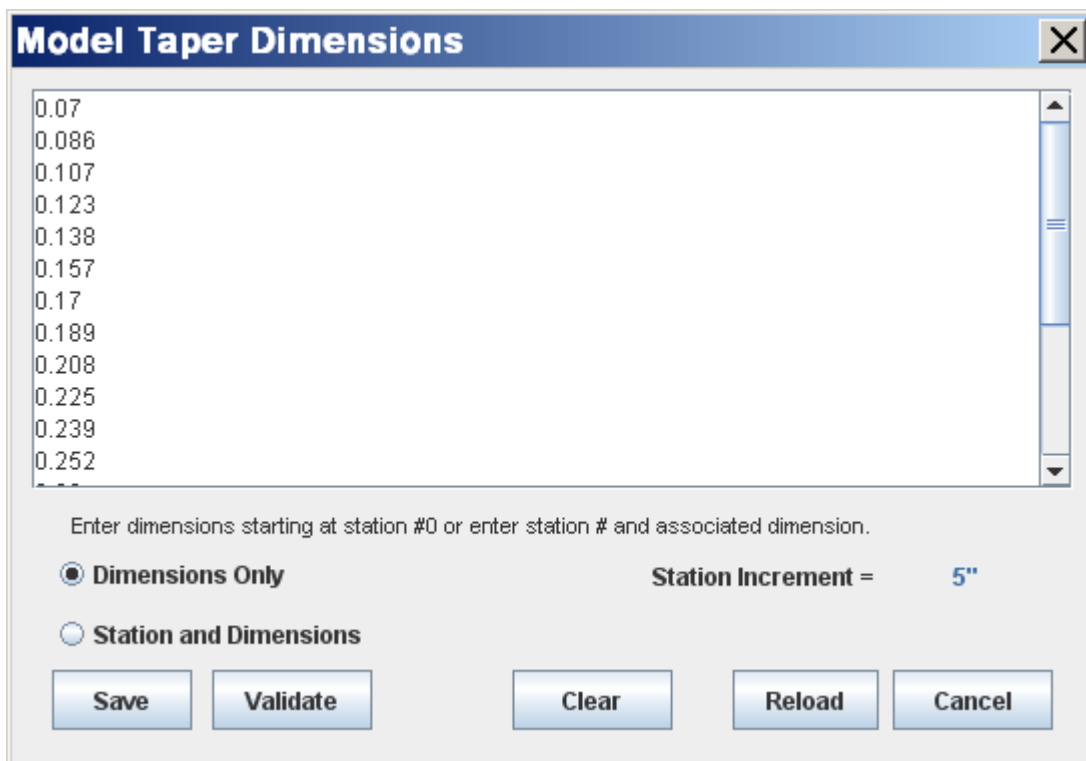


The dialog box titled "Model Taper Dimensions" contains a text area with the following data:

0.07	0.086	0.107	0.123	0.138	0.157
0.17	0.189	0.208	0.225	0.239	0.252
0.26	0.27	0.28	0.29	0.295	0.3
0.3	0.3				

Below the text area, there is a label: "Enter dimensions starting at station #0 or enter station # and associated dimension." Two radio buttons are present: "Dimensions Only" (selected) and "Station and Dimensions". To the right, "Station Increment =" is followed by "5". At the bottom, there are five buttons: "Save", "Validate", "Clear", "Reload", and "Cancel".

To paste into the spreadsheet, it must be a single column of data. Edit it so it is and looks like this



The dialog box titled "Model Taper Dimensions" now shows a single column of data in the text area:

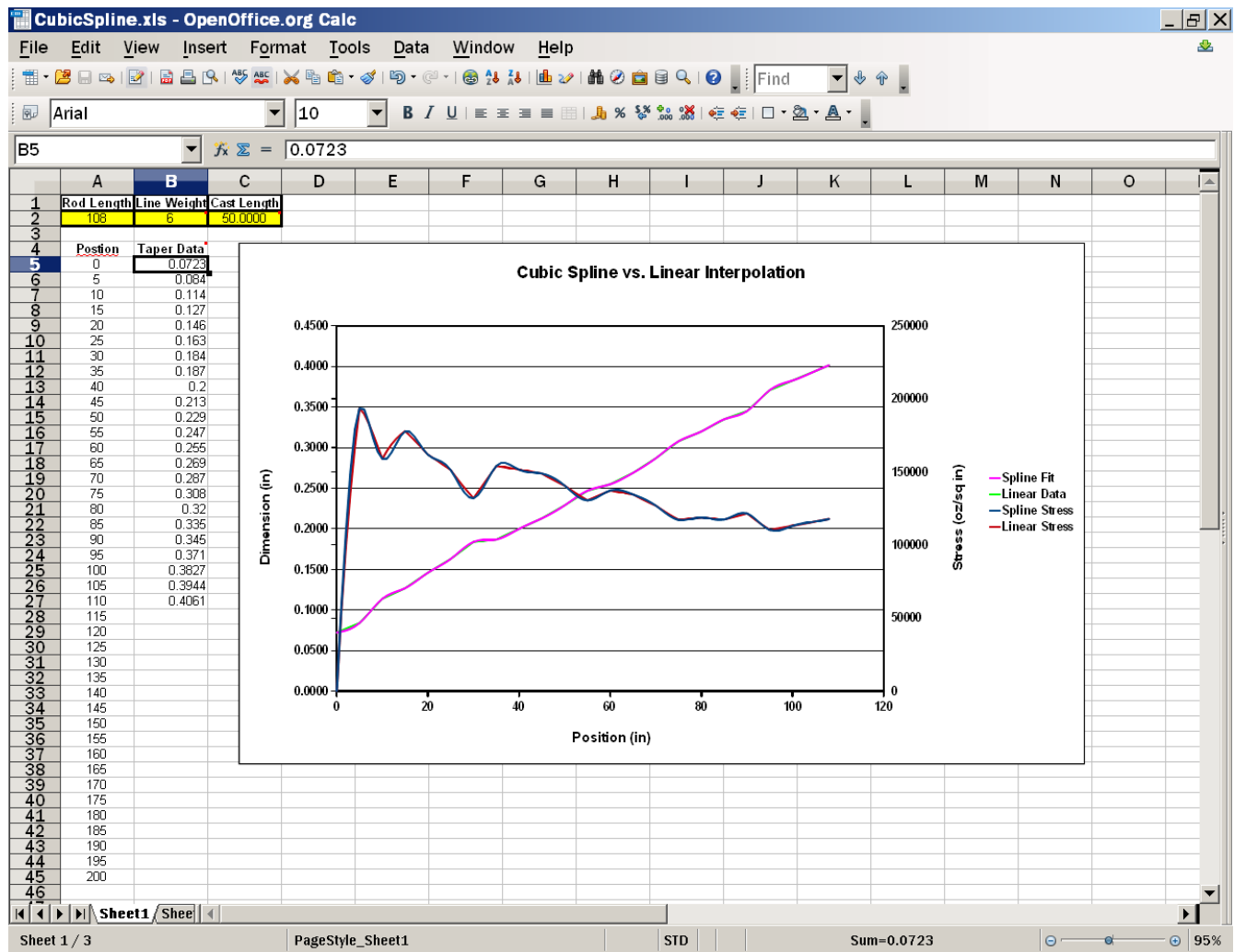
0.07  
0.086  
0.107  
0.123  
0.138  
0.157  
0.17  
0.189  
0.208  
0.225  
0.239  
0.252

The rest of the dialog box, including the label, radio buttons, station increment, and buttons, remains the same as in the previous screenshot.

The Designer version of RodDNA already has the data in column form. Now it's ready to copy and paste. Pasting it into the spreadsheet will bring up a dialog where one has to tell it that it is numerical data, not text. The resulting data from the fit and the plot will

automagically update. If the stress plot then appears strange, check to see that the rod length set is less than the next taper position after the last taper entry. The second sheet is where the actual calculation is done, and has all the details. It is set protected, but not with a password, so the user can unprotect it and edit it.

Below is the first page of CubicSpline.xls, again the user interface and results.



The user enters the rod length, line weight, and cast length. Again the taper can be entered line by line or copied and pasted from RodDNA, and the result will appear. Again if there seems to be a problem with the stress plot, check that the rod length set is less than the next taper position after the last taper entry. The second and third sheets are where the calculation is actually done, and contains all the details.